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Prioritizing community-researcher relationships to vitalize child language research

Melvatha R. Chee

University of New Mexico

Tamera Yazzie

University of New Mexico

Ryan Smith

University of New Mexico

Bethany Lycan

University of New Mexico

Cormac League

University of New Mexico

Alec Goldberg

University of New Mexico

Indigenous child language and child directed language research is largely underrepresented among linguistic studies, although it can greatly increase the empirical study of child language and our understanding of child language development. There are challenges faced in doing this work, including strained relationships between communities and researchers, dwindling numbers of speakers due to the effects of boarding schools, and the disregard for data sovereignty on the side of research. The Indigenous Child Language Research Center (ICLRC) at the University of New Mexico recognizes the need to address and mend these issues in order for communities to participate in first language acquisition research. As a resource for communities interested in research, the ICLRC aims to assist with their revitalization efforts by offering the center as a resource for community-led child language development and acquisition research.

1. Introduction

New Mexico is home to a large Indigenous population with twenty-three federally recognized Tribes. In fact, Indigenous citizens make up 12% of the state's population (Norris et al 2012). With such a large variety of Indigenous communities spread throughout the state, New Mexico should be a place of flourishing linguistic and cultural diversity. Yet, there is a noticeable decrease in the transfer of language and culture to young Indigenous children across the state, reflecting a language shift to English (Romo 2011; House 2002; Chee 2017).

Severe abuse inflicted on Indigenous communities historically by colonial forces has led to the extensive loss of language and culture throughout the state and continent. Indigenous children today still experience the devastating ramifications of that linguistic and cultural oppression, as very few become fluent speakers of their heritage languages. While there are instances where children are being taught formal practices in their languages, such as introductions and prayers, they often do not have the fluency to use their heritage language for daily conversation spanning a variety of topics. Consequently, fluent speakers are primarily found among the older generations in Indigenous communities. When children are no longer speaking their heritage languages in daily interactions, the future of that language becomes uncertain. With no remaining speakers of a native language, that language will be classified as a “sleeping language” if there is documentation.

2. The Indigenous Child Language Research Center

The Indigenous Child Language Research Center (ICLRC) at the University of New Mexico aims to help Indigenous child speakers thrive by supporting community-led Indigenous child language development and acquisition research. Our Center focuses on Indigenous child language acquisition research because there are very few linguistic studies on Indigenous North American languages. Though our work is focused on New Mexico, we have a goal to expand further afield as we grow. By cultivating Indigenous child language work, we aim to assist communities with their revitalization and sustainability efforts to strengthen the vitality of their languages into the future. We seek to inform these communities about existing child language research, collaborate on linguistic empirical studies of child language, and build bridges that link linguistic research and language pedagogy. In doing this work, we emphasize our position on data sovereignty, described in section 5 below. Our primary focus is not to collect data or conduct the research ourselves, but to provide community members with support through training and workshops so they may carry out their own research. Our vision is to maintain linguistic diversity and cultural identity through the nourishment of Indigenous language use by children and their communities.

The Indigenous Child Language Research Center is directed by Dr. Melvatha R. Chee. Dr. Chee is Diné-speaking linguist from the Lake Valley, New Mexico on the Navajo Nation whose primary research interest is first language acquisition of Diné Bizaad. Dr. Chee is both a community member and academic researcher. Similar to Leonard (2017)'s description of himself as having both a personal and academic connection to his Indigenous community, Dr. Chee is also in a unique position in understanding the perspective of both stakeholders. ICLRC has one program specialist, Tamera Yazzie, who is from Red Rock, New Mexico on the Navajo Nation. Tamera earned her Masters of Arts in Linguistics in 2022. ICLRC supports both graduate and undergraduate students studying at UNM. Since the inception of ICLRC, we have supported several Indigenous students from New Mexico tribal communities and several non-Indigenous graduate students. There are also three Navajo transcribers on our team, one audiovisual technician, and one data processing analyst, all of whom are Indigenous community members. A large team is needed to assist with different tasks to achieve the goal of a research project. Future projects with other Indigenous languages will require teams of community members to carry out research on their own terms.

3. Indigenous Languages of New Mexico

There are eight Indigenous languages spoken across the 23 federally recognized Tribes in New Mexico. These include Tiwa, Tewa, Towa, Keres, Zuni, Navajo, Chiricahua-Mescalero Apache, and Jicarilla Apache (New Mexico Secretary of State Maggie Toulouse Oliver, n.d.). Table 1 shows which New Mexico Tribes speak each language. According to Christine Sims, a professor at the University of New Mexico, “There is no definitive data available on language fluency for

most New Mexico tribes other than in census data, which is often inflated [...]. But based on observations from tribal members, it appears ‘language shift’ is occurring in most tribal communities, especially among younger generations” (Romo 2011). Similarly, Dr. Chee also observed that child speakers were few while in the field collecting child language data for her research (Chee 2017). The number of child speakers of these languages remains mostly unknown.

Table 1. Indigenous languages spoken in New Mexico

Language Family	Language	Tribal Nation
Kiowa-Tanoan	Tiwa	Isleta
		Picuris
		Sandia
		Taos
	Tewa	Nambé
		Pojoaque
		San Ildefonso
		Santa Clara
		Tesuque
	Towa	Jemez
Keresan	Keres	Acoma
		Cochiti
		Laguna
		San Felipe
		Santa Ana
		Santo Domingo
		Zia
Zuni	Zuni	Zuni
Dene (Apachean)	Navajo	Navajo
	Chiricahua-Mescalero Apache	Mescalero Apache
		Fort Sill Apache
	Jicarilla Apache	Jicarilla Apache

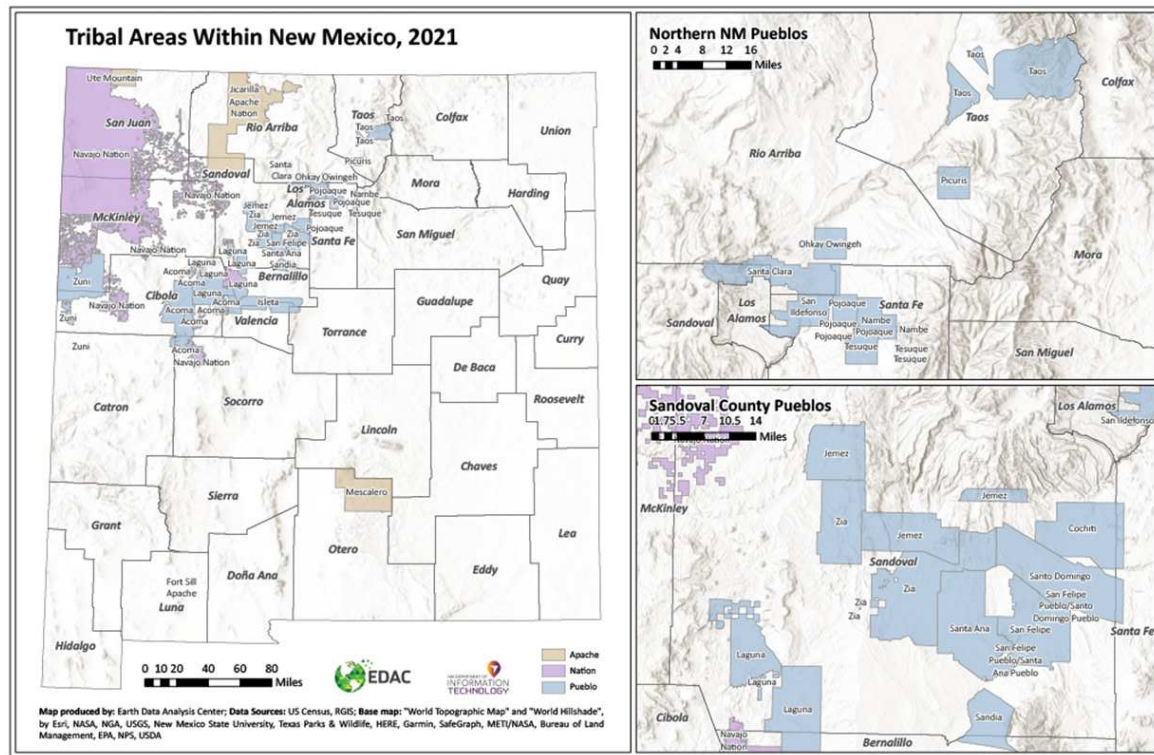


Figure 1. Map of Tribal Areas in New Mexico.¹

Tiwa is spoken among the Pueblos of Isleta, Picuris, Sandia, and Taos. There are an estimated 1600 speakers of Southern Tiwa (spoken in the Pueblos of Isleta and Sandia), 800 - 1000 speakers of Northern Tiwa in Taos Pueblo, and 225 speakers of Northern Tiwa in Picuris Pueblo (Endangered Languages Project, n.d.-f, n.d.-h, n.d.-i). While older community members are mostly fluent in Tiwa, younger community members are not learning the language fluently (Oo-Oo-Nah Art & Cultural Center, n.d.). One of the difficulties in passing the language on to the younger generation is that children living outside of the pueblo do not have as much access to the language as those who live in the pueblo (Oo-Oo-Nah Art & Cultural Center, n.d.). Isleta Pueblo and Taos Pueblo both have language learning classes available for tribal members (Pueblo of Isleta, n.d.; Taos Pueblo Education & Training Division; n.d.). The Oo-Oo-Nah Art & Cultural Center in Taos Pueblo is developing a language class program called the Tiwa Language Project, and there is another program called the Tiwa Language Program (Taos Pueblo Education & Training Division, n.d.) that offers classes in the public schools for elementary through high school students in person and online. Because Tiwa is a sacred language that cannot be written, the Taos Pueblo Tiwa Language Program also publishes books without text to aid in passing on the language to children. An example of this is the Taos Pueblo Four Season board books by Leonard Archuleta, which depict scenes of everyday life in Taos Pueblo that can aid in storytelling or be described to children. The Tiwa Language Program in Isleta Pueblo offers language classes for any community member. They provide after-school instruction and evening and weekend classes for adults (Pueblo of Isleta, n.d.).

The **Tewa** language is spoken among the Pueblos of Nambé, Pojoaque, San Ildefonso, Ohkay Owingeh, Santa Clara, and Tesuque, and has approximately 1,300 - 1,500 speakers, although the ethnic population consists of 4,500 people (Endangered Languages Project, n.d.-j). It is classified as “Endangered” by the Endangered Languages Project: while most adults speak the language, children generally are not learning it (n.d.-j). According to the Endangered Languages Project (n.d.-j), it is rarely used outside of the home, and even in the home English may be the primary language used. Citing 1980 US Census data, the Endangered Languages Project (n.d.-j) records that there are 50 speakers in Nambé Pueblo, 25 in Pojoaque Pueblo, 349 in San Ildefonso Pueblo, 495 in San Juan Pueblo, 207 in Santa Clara Pueblo, and 172 in

¹ https://www.doit.nm.gov/wp-content/uploads/sites/4/2021/12/NM_Tribal_Areas_2021.pdf

Tesuque Pueblo. The exact number of speakers in these communities today is unknown to the general public.

Towa (also called Walatowa) is spoken in Jemez Pueblo and has about 3,000 speakers (Endangered Languages Project, n.d.-c). It is classified as “Vulnerable” by the Endangered Languages Project (n.d.-c): although it has a small population (1,963 according to the 2020 US Census as reported in the Jemez Census Data Profile), all or most of the community speaks the language, including children. Although it is used in most areas of community life, only 6 monolingual speakers of Towa were registered in the 1990 US Census (U.S. Census Bureau, 1994). From 2013 to 2022 the Walatowa Early Childhood Program has enrolled 100 children from 0-5 years of age. The teachers and childcare providers in this program are all fluent in Towa (Benallie 2022). Construction of the new Walatowa Early Childhood Learning Center, which is part of the Pueblo’s initiative prioritizing the learning of Towa as a first language, began in Spring 2022 and opened in September 2023 (Segarra 2023). The new center is based on the community’s values, and includes “art, music, dance, learning through movement, play, and exploration of [the] community and nature through science and math” (Segarra 2023, quoting New Mexico Head Start Manager Lana Garcia).

Keres is spoken in the Pueblos of Acoma, Cochiti, Laguna, San Felipe, Santa Ana, Santo Domingo, and Zia. As of 2008, there were approximately 2,000 speakers in Acoma Pueblo, 600 speakers in Cochiti Pueblo, 2,000 speakers in Laguna Pueblo, 2,340 speakers in San Felipe Pueblo, 385 speakers in Santa Ana Pueblo, 2850 speakers in Santo Domingo Pueblo, and 500 speakers in Zia Pueblo (Endangered Languages Project, n.d.-a, n.d.-g). Although Keres has never been written, the Acoma Language Program is working together with fluent speakers and entry-level tribal linguists to write a dictionary of Keres words that will be accessible only to tribal members (Acoma Department of Education, n.d.). They also aim to develop learning materials for school and for home to help pass on the language to the younger generations. In San Felipe Pueblo, the language of instruction at the Head Start and elementary schools is in Keres. At San Felipe schools, children are reported to learn Keres as a first language (School for Advanced Research [SAR], n.d.). In Cochiti Pueblo, the Keres Children’s Learning Center (KCLC) is a Montessori school that provides a dual language immersion education for children ages 2.5 to 12 years old, based on Pueblo Values (Keres Children’s Learning Center, n.d.).

Zuni, also called Shiwi’ma, is spoken in Zuni Pueblo and has about 9,000 speakers (Endangered Languages Project, n.d.-k). It is considered an isolated language, which means that it is not related to any other language. Zuni is actively used by most members of the community; it is taught in the public schools and is used both in the home and in public (Zuni Pueblo MainStreet, n.d.). Although many Zuni members are opposed to archiving the language online, some community members who are students at the University of New Mexico (UNM) developed the Zuni Language Materials Collection at UNM Libraries so that Zuni members can access these materials when they are not on the reservation (Witt 2018). High school students enrolled in Albuquerque Public Schools can take two semesters of Zuni classes which are geared toward developing basic communication skills, such as listening, speaking, and writing (Albuquerque Public Schools [APS], n.d.).

Navajo, also called Diné Bizaad, is spoken on the Navajo Nation, which is located in Western New Mexico, Eastern Arizona, and Southern Utah, and has an estimated 120,000 – 171,000 native speakers (Endangered Languages Project, n.d.-b). While the language is being actively learned in some families, the rate at which it is being learned has declined drastically. As of 1998, 30% of Navajo first graders spoke Navajo as their L1, compared to 90% in 1968 (Ethnologue, 1998). There are several initiatives to get children to learn the language. Saad K’idilyé is a language nest in Albuquerque, NM, which provides language classes for parents of enrolled children and an immersive nursery where babies can learn Navajo as a first language. Their mission is to provide access to Diné language and culture for urban communities in the Albuquerque area. Some elementary schools in the Navajo Nation offer bilingual immersion programs for children from kindergarten to 5th grade, which begin at 90% Navajo and 10% English instruction in kindergarten, and shift to 50% Navajo and 50% English instruction by 5th grade (Central Consolidated School District, n.d.). High school students enrolled in Albuquerque Public Schools can take two semesters of immersion classes at the Career Enrichment Center, which include community activities outside of class (APS, n.d.). Several schools across the state of New Mexico also offer Navajo language classes. There are two immersion schools in Arizona serving Navajo youth in Diné Bizaad. Tséhootsooí Diné Bi’ólta’ is an immersion school in Window Rock, Arizona and Puente de Hozho is in Flagstaff, Arizona. At the University of New Mexico, college students have the opportunity to earn an undergraduate minor in Navajo language.

Mescalero-Chiricahua Apache has between 1,500 and 1,800 speakers, according to the Endangered Languages Project (n.d.-e), which categorizes it as “Critically Endangered”: there are few speakers of the language, and they are mostly elderly. Mescalero Apache is spoken among the Mescalero Apache Tribe, located in south central New Mexico, and Chiricahua Apache is spoken by the Fort Sill Apache Tribe, which is located mostly in Fort Sill, Oklahoma, but has some

territory in New Mexico. The Fort Sill Apache Tribe has a language program that hosts two-hour classes twice a month to preserve and teach the Chiricahua language (Fort Sill Apache Tribe, n.d.). They work on developing visual and hands-on language materials to provide diverse methods of language learning. Ndé Bizaa' is a Mescalero Apache language program whose goal is to increase their number of speakers and use of the language across all age groups (Mescalero Apache Tribe, n.d.). Their work includes documenting Apache languages, developing language materials, and offering language classes at the Mescalero Tribe Apache Language Immersion School for preschoolers, the Mescalero Schools for K-12 students, and at the Language Program for all ages. Ndé Bizaa' also partners with the Department of Anthropology at New Mexico State University to expand their archive of historical audio and video recordings, develop language learning materials, a grammar, and a bilingual Apache/English dictionary with about 20,000 entries (Romo 2011).

Jicarilla Apache is spoken in the Jicarilla Apache Nation in Northern New Mexico. It has an estimated 300 speakers among its ethnic population of 3,100 people and is classified as "Severely Endangered" by the Endangered Languages Project (n.d.-d): it is spoken mostly by elders, and children generally are not learning to speak it. The 300 speakers may not necessarily be fluent speakers. According to Staley (2020), writing for KRQE, "there are only a few dozen fluent speakers of Jicarilla Apache" (para. 1). Some tribal elders have partnered with researchers from the Department of Linguistics at the University of New Mexico to preserve the language through re-translating cultural texts and adding commentary on the historical context (Rogers 2020; U.S. National Science Foundation 2019). In addition to re-translating these texts, the team is also developing a new writing system to make literacy in Apache more accessible for language learners.

4. Indigenous Child Language Research in the United States and Canada

An analysis of 45 years of published research in the four main child language acquisition journals (*Journal of Child Language*, *First Language*, *Language Acquisition*, and *Language Learning and Development*) showed that most first language acquisition research has focused on English and other widely spoken languages, while there are very few publications on most of the world's languages. These journals include only four papers on Inuktitut, three on K'iche', two on Yucatec, and one each on Cree (Northern East), Greenlandic, Mohawk, and Navajo (Evan-Kidd & Garcia 2022). Though child language acquisition research does not need to be published in one of these journals to be valuable, the low representation of Indigenous languages in this sample is emblematic of a larger issue: the lack of research on Indigenous languages. This gap in linguistic research has been noticed by other researchers as well (Kelly et al. 2015; Pye 2021; Chee & Henke 2023). A chart showcasing all studies of child directed language and child language studies from languages in the Southwest can be found in Appendix A.

It is important to understand the context of Indigenous American languages and the challenges faced by their communities, which differ in some ways from the challenges of other minoritized speech communities. Crucially, while Indigenous American languages have been spoken in North America since long before the arrival of colonial and other migrant languages, government initiatives have aimed policies to enforce language dominance and suppress the use of Indigenous languages. Though some of these policies are no longer in effect, they continue to have lasting impacts and contribute to the dwindling numbers of Indigenous language speakers.

Across the United States and Canada today, many Indigenous communities are working diligently to make the next generation of children fluent speakers of their heritage language, whereas the general trend among Indigenous children in recent decades has been to grow up using predominantly or exclusively the majority language. The reasons for this trend are grounded in the forced assimilation policies of the governments of the US and Canada, such as confining Indigenous people on reservations and forcibly taking children from their families to enroll them in English-only boarding schools (Feir 2016; Crawford 2000). In 1887, the US Commissioner of Indian Affairs banned Indigenous languages from government-funded schools on reservations (McKenzie 2022). At these boarding schools, children were severely punished for any expression of their native language or culture.

In the US, the Indian Child Welfare Act passed in 1978, ceased the separation of Indigenous children and their families. This act may have helped stifle the abuse of Indigenous peoples in the US. In Canada, the last boarding school was closed in 1996 (Griffith 2017). Although these boarding schools have since been closed this trauma still reverberates through generations and affects children to this day. However, Indigenous peoples across North America are making efforts to process this trauma through the reclamation of their language and culture, which are so closely intertwined with one another. In this vein, there are many organic efforts led by Indigenous peoples to increase intergenerational transmission of their heritage languages, such as investing in language programs for infants and toddlers growing up in environments where English is widely spoken. Because many of these language programs are being implemented, there are now opportunities to expand our understanding of child language acquisition of these severely understudied Indig-

enous languages of the US and Canada.

Research that increases our understanding of Indigenous child language development is crucial for supporting language programs, informing pedagogy, and creating other tools to promote full language mastery. One model at the center of Indigenous-led language revitalization efforts in the US, Canada, and around the world is the language nest model. A language nest facilitates intergenerational language transmission by having adult speakers immerse infants, toddlers, and young children in the language. Language nests can even include prenatal mothers to begin working with children at the earliest stage possible. It is very different than an academic language course, which usually starts in elementary school or later, because the language nest model leads to quicker and greater fluency as the language is acquired at a younger age (Okura 2017). There are also other methods communities implement in their language revitalization efforts such as master-apprentice models for young children, as well as other types of immersion programs.

Although research is needed, there are few Indigenous child language databases in existence. One of the existing databases used in this field of research is the Chisasibi Child Language Acquisition Study, at Memorial University of Newfoundland. This database contains longitudinal naturalistic data collected from 2004-2007 of children acquiring Northern East Cree, which Henke & Brittain (2022) have used to study demonstratives in child-directed language. Child-directed language has also been studied by Hellwig & Jung (2020) using a corpus of Dëne Sųłiné spoken by two communities in Northwestern Saskatchewan. This corpus, part of a project called Dëne Sųłiné Language Acquisition Study (DESLAS), is continuing to be developed by Jung. Quality data like this can be difficult to come by especially as Indigenous children are less commonly acquiring their native languages. More incentives are needed when it comes to producing and working with this type of data. For example, leading child language research journals could play a role in this by supporting publications done with similar datasets to encourage growth in this area.

5. Challenges of Indigenous Child Language Acquisition Research

There are several challenges that contribute to the lack of Indigenous first language acquisition research in the US and Canada. In many Indigenous communities today, there are few children who can speak their heritage language, especially as a first language. As mentioned in the previous section, this is directly related to trauma stemming from colonization and the implementation of boarding schools, as well as these countries being English-dominant. This shift to English has led to fewer and fewer children speaking their heritage language with each successive generation. The observation that linguistics developed concurrently with colonialism is discussed in Errington (2008).

In addition to the decreasing number of child speakers, many Indigenous communities have had strained or negative relationships with researchers due to power imbalances and the misuse of data (Cochran et al. 2008; Pool 2016). It has been common for non-Indigenous researchers to advance their own careers using data collected from Indigenous communities while these communities do not directly benefit from this research. There have also been cases where data was used for other purposes than what Indigenous communities gave permission for. Further, academic researchers may have taken data and not shared the results of the research, video and audio recordings, and the data itself with their community partners. Due to these experiences, it is not surprising that many Indigenous communities are wary of participating in research. Data sovereignty will be discussed in section 5.

In addition to the challenge of locating child speakers in communities who are willing to participate in research, there are also challenges in carrying out the research itself. The preparation phase of research entails requesting permission to conduct research from both institutions and communities and securing funding to carry out the research. Obtaining permission to carry out research with Indigenous communities is required, and the process on how to do so may differ with each community. When discussing the possibility of conducting research with a community, it is recommended that linguists begin their research relationship with collaborative consultations, as it encourages research integrity and may facilitate a faster transition to trust through the openness it entails (Leonard & Haynes 2010, 288; Leonard, 2021). Necessary topics to discuss include the detailed research process, potential outcomes, and direct benefits to the community. Additionally, the group should discuss their definitions of concepts such as “language”, as this may differ greatly between community members and linguists, and ways Indigenous concepts and worldviews can guide each step of the work process (Leonard 2017).

During these initial discussions, it is vital to discuss the needs of the community and the needs of the researcher before conducting the research to avoid misunderstandings and to establish equal footing. During the process of obtaining permission from a tribal community, a discussion addressing the most appropriate and respectful ways to work with and publish data, if applicable, must take place. It is important to remember that when working with communities,

publications should not be the first goal of the researcher and great care should be taken to avoid exploitative actions.

Navigating the process of gaining funds can also be quite an endeavor, as different sources of funding come with various expectations and deliverables. For academic and research-based funding there is typically an expectation that the work will contribute to widely accessible publications. This may be an issue for communities who are reluctant to have their information shared with the public. Typically, in these cases, it is more beneficial to seek funding from other sources that will allow communities to do work without publishing research. An alternative solution is to find creative ways to disseminate findings to the community of the language being researched, where it will have the most impact. For example, sharing findings with hospitals, schools, public safety, departments, social services, etc. allows the data collected from that community to be applied directly. This type of approach could lead to more community-led and community-driven research. This approach also allows community members to use academic and research-based funding without needing to seek funding from other sources. It is beneficial to include community members in the process of applying and searching for funding, so they are aware of the expectations and deliverables that come with each funding source. They will likely have input on which to apply for and which to avoid based on what they are comfortable with sharing.

Challenges also lie in attaining the required equipment for the collection of quality data apt for research. Equipment used to produce the highest quality audio and video recordings can be quite costly; however, there are lower-cost solutions that can be used to produce quality data. Depending on the available funds supporting the research at hand, discussions will need to take place to determine the types of equipment needed for the research topic, and which items to allocate the most funds to. If organizations and other community members can potentially benefit from the research being done, they may be open to fundraising, donating, or purchasing equipment, which may help problem solve the lack of funds for research equipment.

After data has been collected, it will need to be transcribed and analyzed. Finding skilled transcribers who are both fluent and literate in their Indigenous language can be a challenge, especially for languages without many speakers. Additional challenges may depend on the language and orthographic conventions. Further, some speech-communities may be averse to writing their languages, so phonetic transcription or other solutions may be better. Transcription is a time-consuming process, so having multiple transcribers is helpful for larger projects. Fortunately, much of the software needed for linguistic analysis is free, minimizing financial barriers. While there is a learning curve to using specialized software for linguistic research, there are free tutorials and other resources online that can help with this challenge.

It is worth noting that databases of Indigenous child language speech and interaction in North America are few and far between. When we think of databases, what may initially come to mind are the large databases that exist for English and other major languages, such as CHILDES and Wordbank. In researching Indigenous child languages, it is often not possible to collect the amount of data necessary to build a large database. The small databases that result from the case studies or cohorts made up of a handful of speakers, however, can be incredibly rich and informative.

When excluding research conducted with smaller databases means excluding research on understudied languages, we must consider how structural barriers continue to produce more research on a select few languages while other languages are continuously ignored. Since for many Indigenous languages the breadth of data does not compare to that of widely spoken languages, it is crucial that existing data and collection of new data be highly valued. As Henke (2022) so eloquently puts it, “In an impoverished research landscape, every bit of information has potential intellectual merit. But in appraising and increasing the diversity of language coverage, science must contend with issues related to quantity and quality.”

If agreements have been made with a community to allow for the publishing of data, meeting journal requirements may be a challenge as they are often rigorous. For example, reviewers of a paper may inquire as to why a database is small or about the reasons why there are gaps in data from certain age groups of very young speakers. There may also be questions involving the accuracy of transcriptions and how transcriptions are verified. Questions such as these will require explanations that may describe the lack of child speakers from all targeted age groups, which may leave age gaps in the data, and the challenges of finding skilled transcribers who are fluent and literate in their language.

6. Data Sovereignty

In the United States, the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) states that the control of Native American cultural items discovered on Federal lands belongs to the tribe who “has the closest cultural affiliation with such...objects” (NAGPRA, 1990). However, this statute only pertains to physical objects and human remains. The United Nations Education, Scientific, and Cultural Organization (UNESCO) takes a wider view of what belongs to the community from which it came with its recognition of various forms of Intangible Cultural Heritage. However, even the wider view of UNESCO does not recognize language itself as a form of this heritage. The United Nations Declaration on the Rights of Indigenous Peoples similarly recognizes the rights of Indigenous people to control their cultural objects, their lands, and their educational systems but only states that Indigenous groups have a right to “revitalize, use, develop and transmit to future generations” their languages (UNDRIP Article 13, Section 1). In this way, UNDRIP clearly recognizes the rights of Indigenous people to control both tangible and intangible manifestations of their cultural patrimony, but seem to think of language more along the lines of the legal principal of free use i.e. that permission is not required for use. However, this (admittedly common) perspective does not recognize that Indigenous languages are “fundamental to...sovereignty and self-determination and essential to the maintenance of a collective and personal cultural identity as well as communal and personal well-being” (Nicholas 2008).

In New Mexico, there was a contentious issue beginning in 2016 involving a shield from Acoma Pueblo that was going to go up for auction in Paris, France, where both laws and perspectives about cultural patrimony are different. To the Acoma people and under their tribal laws, the shield was “collectively owned [and was considered more akin to a] living being rather than a work of art” (Buckley 2020). Former Navajo Nation Vice President Rex Lee Jim described sacred Yeibichei masks for sale several years prior at a different Paris auction house along similar lines, as “living and breathing beings” which were never meant to be bought and sold (“Navajo Tribe buys back,” 2014). Of course, Acoma Pueblo officials could have bid on the shield to bring their relative home, but in doing so, the tribe themselves would be operating “within the logic of the auction house, beginning and ending with the cultural object for sale. The market [would remain] intact” (Buckley 2020). Instead, tribal officials recognized that “the master’s tools will never dismantle the master’s house. They may allow us temporarily to beat him at his own game, but they will never enable us to bring about genuine change” (Lorde 2007). In order for the Federal Government to assist Acoma Pueblo, they wanted more information about the shield and how it was traditionally used, but “one of the main reasons Acoma wanted to get the shield back was to regain its intended privacy within the pueblo, to stop having to describe it to outsiders” (Buckley 2020). The Federal Government did eventually support Tribal officials’ efforts, but only through a meeting between Acoma Pueblo Governor Brian Vallo and the seller was the shield voluntarily returned to its home and its relatives.

This controversy with a tangible object echoed another from several decades before in neighboring Arizona involving the publication of a dictionary of the Hopi language. Since its publication in 1998, Hopi dictionary/Hopiikwa lavàytutuveni: A Hopi-English dictionary of the Third Mesa dialect has provided “Hopi with an orthography and an extensive Hopi lexicographical instrument for Hopi literacy development” (Nicholas 2008). The controversy here was not about the utility of the dictionary to the Hopi people, but rather about who besides them would be able to buy, read, and own it. The Hopi Dictionary Project was funded under a National Endowment for the Humanities grant which “required that any publication from [the] project would necessarily be made available to the public at large” (Hill 2002). Some members of the Hopi Dictionary Project report that the dictionary was intended from the start for two audiences – Hopi community members and linguistic researchers, especially those studying Uto-Aztecan languages (the family to which Hopi belongs). During publication, though, Hopi tribal members began having concerns that due to the hefty price, it would be more available to researchers than to community members. The Hopi Dictionary Project agreed to donate the proceeds from sales to a non-profit serving the Hopi community. Even so, many members of the Hopi community felt uncomfortable with the sale of the book to anyone, because their language knowledge had been made into a product for sale. Even though it was an elegant book and “one of the most comprehensive dictionaries of an Amerindian language” (Dakin 2000), the Hopi language, including songs and prayers, is an inalienable part of what it means to be Hopi because it conveys Hopi “ancestral knowledge, history, and fundamental principles and values of life” (Nicholas 2008).

A more recent controversy regarding an Indigenous language dictionary program in the US Southwest surrounds the Acoma Dictionary Project mentioned above. The Pueblo of Acoma’s decision to pursue a written dictionary of its variety of the Keres language was not unanimous among tribal members nor among various Pueblos who speak Keres. However, Pueblo of Acoma administration decided the dictionary was an important project to carry forward even though invigorating an Indigenous language “starts day one [of a person’s life], in the family home” (Melvin Juanico, as cited

in DiSanto 2019). Pueblo of Acoma members recognize that a Keres dictionary alone is far from sufficient to grow the number of speakers of Keres because “you have to be able to speak [Keres] one-on-one with the elders and just talk to each other, to understand what the words mean and why” (Melvin Juanico, as cited in DiSanto 2019). When the Acoma government decided to reorganize the dictionary project, there was disagreement regarding whether the language materials generated prior to reorganization belonged to the tribe or to the outside researchers who were paid to generate the materials (Brewer 2022; Budd 2022). This relatively recent dispute over ownership of Indigenous language materials raises “the deeper issue [of] whether any language can be owned by the Native speakers or is it knowledge any person can acquire through exposure and diligent study” and demonstrates that this is still a topical issue for Indigenous people today (Budd 2022).

With situations like these and innumerable others that are front of mind for Indigenous people in the American Southwest when they think about their relationships with institutions of power, it was imperative for the ICLRC to find a concrete way to respond to these historic and contemporary injustices from the outset. At the forefront of ICLRC’s research efforts is a commitment to data sovereignty for the Indigenous groups with whom we partner. The concept of data sovereignty embraces the notion that the ownership of data (e.g. audio and video recordings, databases, language material, etc.) and the rights to govern it belong to the community that the data came from. Many communities experience ongoing issues with researchers who do not respect data sovereignty. It has been a common occurrence for researchers to collect data, publish findings, and profit without giving back to the communities the data came from. Although linguistic researchers are unlikely to become wealthy off of their work, there can still be a stark contrast between a middle-class American lifestyle afforded by university employment and the lifestyles of Indigenous community-members. For example, the median household income on the Navajo Nation is less than half of the median household income across the United States (\$32,579 on Navajo Nation versus \$74,755 across the United States; U.S. Census Bureau 2022). Also on the Navajo Nation, a large minority of people today do not have running water or electricity at home (Mullane 2022). In this light, a researcher’s tenure and a pension contrast starkly with kerosene lamps, hauling water, and struggling to afford a vehicle.

Aside from the monetary benefit academic researchers receive, they benefit in a variety of other ways, such as gaining prestige and increased opportunities. For example, researchers improve their Curriculum Vitae by adding their research publications and they are invited to speak at events/conferences as keynote speakers. This leads them to gain further opportunities such as becoming heads of organizational boards and/or committees. Due to their experiences working with tribal communities, researchers significantly improve their chances to receive grants and are solely recognized and awarded for their work. Researchers will outcompete community members when considered for similar opportunities, receive invitations to work on similar topics, and these experiences help them achieve academic promotion.

This breach of trust resulting from power inequities often leaves communities feeling used and, understandably, wary of working with researchers in the future. At our inception, the various members of the Indigenous Child Language Research Center (ICLRC) worked to craft a wide statement on data sovereignty. Our guiding principles of data sovereignty are not to take, claim, or publish data, unless invited to do so. Rather, we strive to support and train community members to conduct their own child language research. We are primarily concerned with assisting in research through workshops and developing methods in partnership with communities to sustain child speakers. With these guiding principles, we aim to create healthy relationships built on trust and show what it means to truly work with a community partner.

The linguistic work we do with Indigenous communities would not be possible without a robust commitment to data sovereignty, both in our words and in our actions. We see ourselves as assisting with research in the service of our Indigenous partners, to whom the data belongs and with whom control over the data resides. We hope to help them produce something from the research that is valuable to the Indigenous language community at large. We understand our Indigenous partners may be wary of their languages and their cultures being seen as “rich linguistic raw material” to be extracted by linguists, packaged into articles and books, and deposited forever into library stacks (Baker, 1963, p. 37, as cited in Samarin, 1967, p. 17). In the United States, “Native Americans have been mined for financial benefit and academic accolades for centuries” (Brewer 2022). In operating the way that we do, we aim to refashion the traditional Western research pipeline into an Indigenous-centric circular paradigm where all involved parties are uplifted. In this model, the whole is greater than the sum of the parts and the various segments blend into each other (Wilson 2008, pp. 69-71).

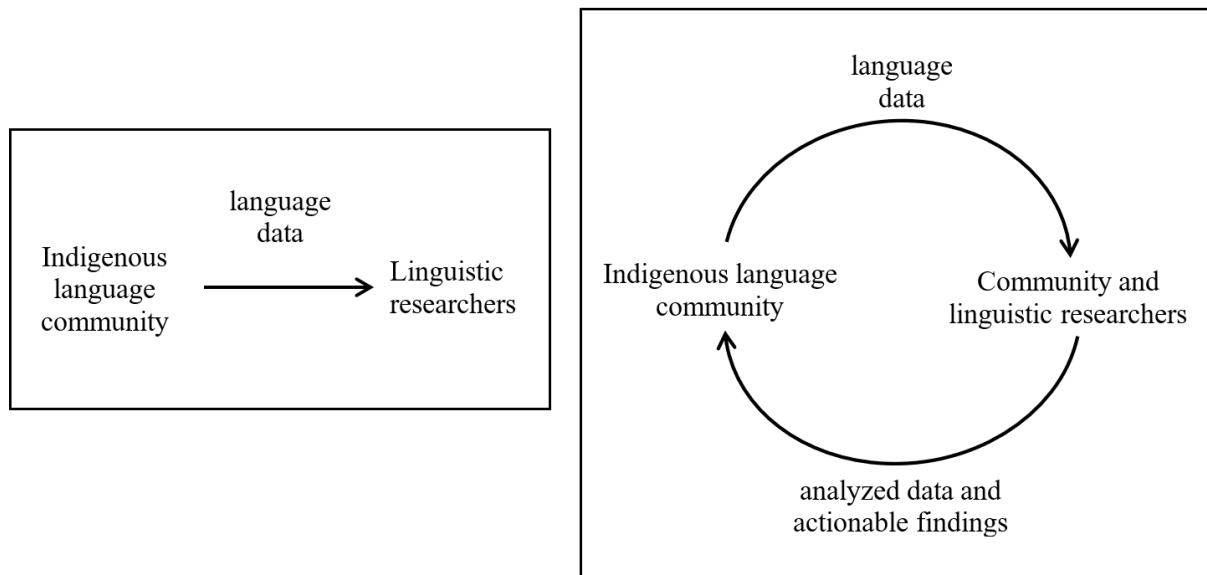


Figure 2. The extractive model of linguistic research on the left is not viable because it is ethically inadvisable to take without giving back. The synergistic model of linguistic research on the right enriches all parties, providing quantitative data for language communities to use to enhance their language transmission programs, develop language policy, etc. and providing linguistic researchers with a greater understanding of diverse language structures and of Indigenous pedagogies of language transmission.

A valuable general framework that can be used to guide research in collaboration with Indigenous communities was created in North America and is known as “the Rs,” which can be viewed through the lens of linguistics as “respect between the actors; some measure of reciprocity and sense of responsibility to the other; the extent to which language documentation is of relevance to non-academic as well as academic audiences; and, whether the research involves some element of trust and accountability to relationships” (Leonard & Haynes 2010, Czaykowska-Higgins 2018, Leonard 2021). Another framework that has recently been created specifically to respond to calls for open data standards (Wilkinson et al. 2016) from an Indigenous perspective are the CARE principles (Research Data Alliance International Indigenous Data Sovereignty Interest Group 2019). General open data principles may discount “power differentials and historical contexts” unique to Indigenous peoples, which is something that these principles seek to rectify. CARE principles dictate that research has a collective benefit, that Indigenous community members have authority to control the research, that researchers working with Indigenous communities are responsible to those with whom they partner, and that ethics towards Indigenous people should be central at all stages of research (Carroll et al. 2020).

Wesley Leonard also shares his perspective on collaborative research from an indigenous academic point of view which is crucial to reference in this paper. Leonard (2021) identifies specific ways to indigenize collaborative research work with community members. Key components of Leonard’s work address the needs and perspectives of indigenous communities, which should inform the design of all language work including research. This approach includes sharing with community partners the research responsibilities and authority from the inception of a project (Harrison 2001; Leonard & Haynes 2010).

Leonard (2021) makes a point about collaborative research by describing the difference between sharing information and sharing knowledge. Simply providing copies of products written in academic jargon about an Indigenous language is inaccessible to community members, and therefore is sharing information and not knowledge. Community partners may not understand linguistic jargon but are native speakers of their languages and typically serve as language experts. For this reason, sharing of knowledge specifically is essential in collaborative research. The sharing of knowledge is achieved in collaboration when unique knowledge from all stakeholders is shared. From the researcher’s side, this in-

cludes research design, theories, analyses, data, and methodologies. From the community partner side, this includes cultural beliefs and practices, definitions of language, and their worldview. Knowledge sharing can be implemented by training community partners on the technical aspects of the research and by including them in the analysis and data processing components, which has generally only been done by linguists.

If only a linguist controls all aspects of a research project, then the working arrangements are not truly collaborative (Rice 2006), regardless of any prior consultations, agreements, and permissions the researcher discussed with their community partner. It is important to plan how one will conduct research work with a community, especially in the State of New Mexico where most tribal Nations do not welcome or solicit research.

7. Conclusion

When doing research with communities, researchers need to make certain that the research taking place enriches the community from which it was collected, and that the community maintains control of the data. The ICLRC practices this by encouraging communities to lead their own child language research projects, as well as keeping the notion of data sovereignty at the forefront of our work. Researchers are often interested in documenting the most fluent adult speakers, but young children are valuable too and may have the most insight into how a language is learned. Today, it is important to recognize that child language work is community work. Without parents and children, there would be no language nests or research. Because research cannot take place without the community, the community deserves to benefit from and establish equal footing in each area of research.

To address some of the issues discussed, the ICLRC established the Child Language Acquisition Symposium for Indigenous Communities (CLASIC) to bring linguists studying child language together with Indigenous community leaders, language teachers, and the families of children learning these languages to build relationships and foster an understanding of the importance of each other. Presentations at CLASIC are given by language professionals, parents, and linguistic researchers so each group can share their knowledge to grow Indigenous languages and reclaim them for present and future child speakers.

CLASIC, as a conference hosted by ICLRC, understands that communities may be curious, but justifiably wary, of conducting or participating in research. There are few to no opportunities where these groups from across the US and Canada get the chance to network and meet one another. Therefore, we aim to connect researchers and communities in a respectful way to establish constructive and educational dialogue. Furthermore, spending time together in an informal setting will allow these different groups to start healing severed or previously unequal relationships, so that all can move forward in the spirit of intellectual progress and collaboration on equal footing to benefit Indigenous children. We hope gatherings that address these important topics can take place more often so that strong bonds are created as visualized in Figure 3 below.

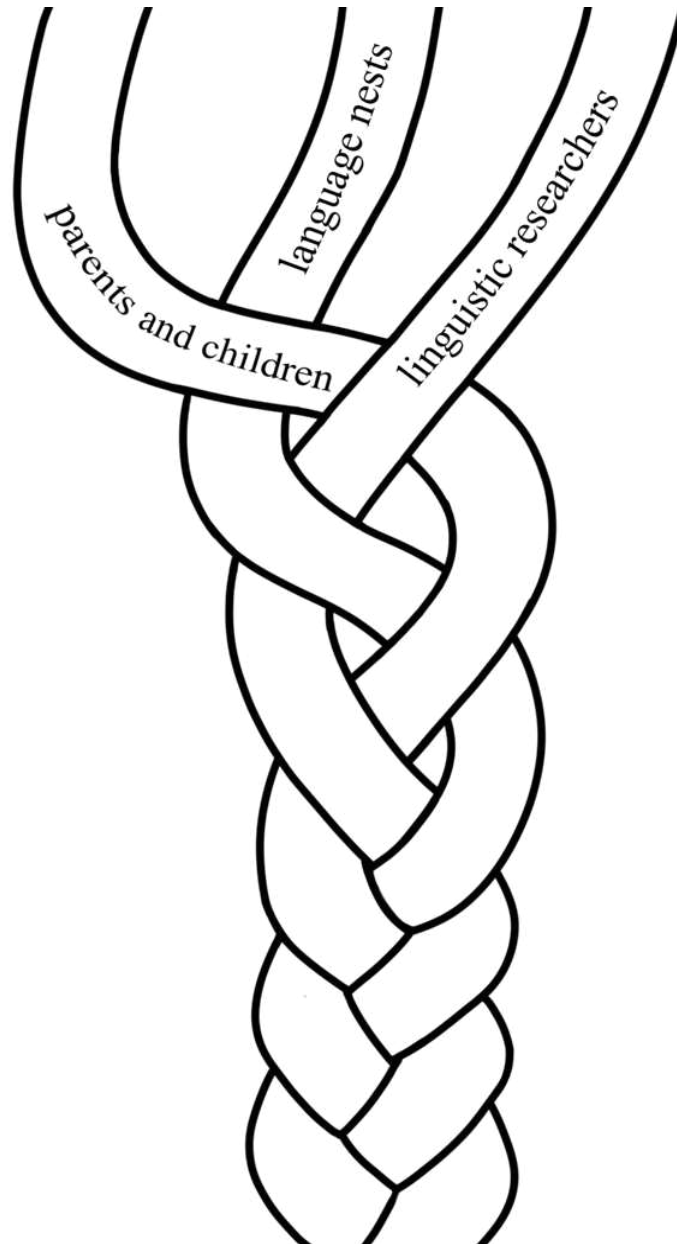


Figure 3. Although parents and children, language nests, and linguistic researchers are separate entities, we can work together to create a strong bond to support the future of child language revitalization and acquisition research.

Appendix A

Articles about Indigenous child language of the southwest area adapted from Chee & Henke, 2024.

Kroeber, A. L. (1916). The speech of a Zuni child. <i>American Anthropologist</i> , 529–534.	Isolate	Zuni	Child speech
Chee, M. R. (2007). The acquisition of Navajo verbs [MA thesis]. University of New Mexico.	Na-Dene	Navajo	Child speech
Chee, M. R. (2017). A longitudinal cross-sectional study on the acquisition of Navajo verbs in children aged 4 years through 11 years [PhD dissertation]. University of New Mexico.	Na-Dene	Navajo	Child speech
Chee, M.R. (forthcoming). Navajo Verbs in Child Speech. <i>Journal of Child Language</i> .	Na-Dene	Navajo	Child Speech
Courtney, E. H., & Saville-Troike, M. (2000). Child acquisition of Navajo and Quechua verb complexes: Issues of paradigm-learning. <i>Coyote Papers: Working Papers in Linguistics, Special Volume on Native American Languages</i> , 11, 25–50.	Na-Dene	Navajo	Child speech
Courtney, E. H., & Saville-Troike, M. (2002). Learning to construct verbs in Navajo and Quechua. <i>Journal of Child Language</i> , 29(03), 623–654.	Na-Dene	Navajo	Child speech
Foster, S. H., Singer, G., Benally, L., Boone, T., & Beck, A. (1989). Describing the language of Navajo children. <i>Journal of Navajo Education</i> , VII(1), 13–17.	Na-Dene	Navajo	Child speech
Saville-Troike, M. (1996). Development of the inflected verb in Navajo child language. In E. Jelinek, S. Midgette, K. Rice, & L. Saxon (Eds.), <i>Athabaskan Language Studies: Essays in Honor of Robert W. Young</i> (pp. 137–192). University of New Mexico Press.	Na-Dene	Navajo	Child speech
Titiev, M. (1946). Suggestions for the further study of Hopi. <i>International Journal of American Linguistics</i> , 12(2), 89–91.	Uto-Aztecan	Hopi	Child speech
Miller, W. R. (1965). <i>Acoma grammar and texts</i> . University of California Press.	Keresan	Acoma	Child-directed speech
Gentner, D., & Boroditsky, L. (2009). Early acquisition of nouns and verbs: Evidence from Navajo. In V. C. M. Gathercole (Ed.), <i>Routes to language: Studies in honor of Melissa Bowerman</i> (pp. 5–32). Routledge.	Na-Dene	Navajo	Child speech
Iris, M. (1994). A Lexical/Semantic Analysis of Navajo Children's Lexicons. In <i>Proceedings of the twentieth meeting of the Chicago Linguistic Society: Papers from the parasessions</i> (pp. 143–149).	Na-Dene	Navajo	Child speech
Iris, M. A. (1981). <i>Navajo children's lexical development and the acquisition of world view</i> . Northwestern University.	Na-Dene	Navajo	Child speech
Saad K'idilyé & Indigenous Child Language Research Center. (2023). <i>Nihiyázhí Bi-zaad: Investigating Navajo Child Language Development</i> . Unpublished manuscript.	Na-Dene	Navajo	Child-Directed speech, child speech, and child gesturing
Young, R. W. (1971). The development of semantic categories in Spanish-English and Navajo-English bilingual children. <i>Conference on Child Language</i> , 193–208. https://files.eric.ed.gov/fulltext/ED060749.pdf	Na-Dene	Navajo	Child speech

Kroeber, A. L. (1916). The speech of a Zuni child. <i>American Anthropologist</i> , 529–534.	Isolate	Zuni	Child speech
Chee, M. R. (2007). The acquisition of Navajo verbs [MA thesis]. University of New Mexico.	Na-Dene	Navajo	Child speech
Chee, M. R. (2017). A longitudinal cross-sectional study on the acquisition of Navajo verbs in children aged 4 years through 11 years [PhD dissertation]. University of New Mexico.	Na-Dene	Navajo	Child speech
Chee, M.R. (forthcoming). Navajo Verbs in Child Speech. <i>Journal of Child Language</i> .	Na-Dene	Navajo	Child Speech
Courtney, E. H., & Saville-Troike, M. (2000). Child acquisition of Navajo and Quechua verb complexes: Issues of paradigm-learning. <i>Coyote Papers: Working Papers in Linguistics, Special Volume on Native American Languages</i> , 11, 25–50.	Na-Dene	Navajo	Child speech
Courtney, E. H., & Saville-Troike, M. (2002). Learning to construct verbs in Navajo and Quechua. <i>Journal of Child Language</i> , 29(03), 623–654.	Na-Dene	Navajo	Child speech

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